

97. The composition of Claim 95, wherein at least one of said one or more attenuating mutations is selected from the group consisting of codons at E2 amino acid position 76 which specify an attenuating amino acid, codons at E2 amino acid position 120 which specify an attenuating amino acid, codons at E2 amino acid position 209 which specify an attenuating amino acid, codons at E1 amino acid 272 which specify an attenuating mutation, codons at E1 amino acid 81 which specify an attenuating mutation, and codons at E1 amino acid 253 which specify an attenuating mutation, and the deletion of E3 amino acids 56-59.

98. The composition of Claim 95, wherein each of said one or more heterologous nucleotide sequences is operably associated with a promoter.

99. The composition of Claim 98, wherein said promoter operably associated with each of said one or more heterologous nucleotide sequences is an alphavirus 26S subgenomic promoter.

100. The composition of Claim 95, wherein said native cancer antigen is selected from the group consisting of a helper T cell epitope, a cytotoxic T cell epitope, a T-dependent B cell epitope, and a T-independent B cell epitope.

101. The composition of Claim 95, wherein said cancer antigen is a cell-surface protein or peptide.

102. A pharmaceutical formulation comprising the composition of Claim 95 in a pharmaceutically acceptable carrier.

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